Radio Network Management System (RNMS)

Plan. Deploy. Communicate.

Elbit Systems
Land and C4I

Radio Network Management System (RNMS)

Plan. Deploy. Communicate.

The Elbit Systems Tadiran Radio Network Management System (RNMS) is an integrated communication software solution ideal for the planning and management of advanced radio networks. A central element of any military radio communication strategy, the RNMS ensures flawless voice and data communication in any tactical environment. The system incorporates a wide range of existing resources and parameters into its analysis such as available network frequencies, radio types, platforms, antennas, maps, encryption keys, output power and other factors. Additionally, the system implements a wave propagation model for frequency analysis.

Key Features

The RNMS is comprised of six key software applications that span every phase of network planning, from preparation to deployment. All applications are coordinated by an easy-to-use RNMS system manager that activates each application based on user access level.

Network Planning and Frequency Management

As a foundation for all advanced radio network communication strategies, the versatile RNMS offers decision-makers a wide range of resources to build communications plans for both on and off the battlefield. Based on custom input about system types, radio equipment and deployment scenarios, the RNMS scans and analyzes frequencies from 1 MHz up to 2.75 GHz for HF, VHF, UHF and LOS networks. Such analysis is based on a wave propagation model that takes into account all parameters relevant to the equipment and geographical conditions. In addition, it allows automatic allocation of frequencies for different fixed frequency and frequency-hopping networks.

Data Network Management

This advanced utility works hand-in-hand with the network planning tool. Based on the scenario planning, it further configures the data networks operation with any ad hoc parameters and IP address information available.

Encryption Keys Management

This component allows keys generation and allocation to the various networks as defined in the scenario.

Radio Parameters Setting and Distribution (Loaders)

Individual radios are loaded with all network parameters from the RNMS configuration files.

The radio loading may be operated either directly from the RNMS station connected to the radio or through a fill gun which may be loaded by the RNMS. Supported devices include:

- Tadiran CNR-9000/CNR-9000HDR family (VHF)
- Tadiran CNR-710 family (VHF)
- Tadiran HF-8000 family (HF)
- Tadiran PNR radio family (UHF)
- Tadiran GRC-408 family (LOS)
- Tadiran SDR radio family (UHF)
- Tadiran G10N (fill gun)

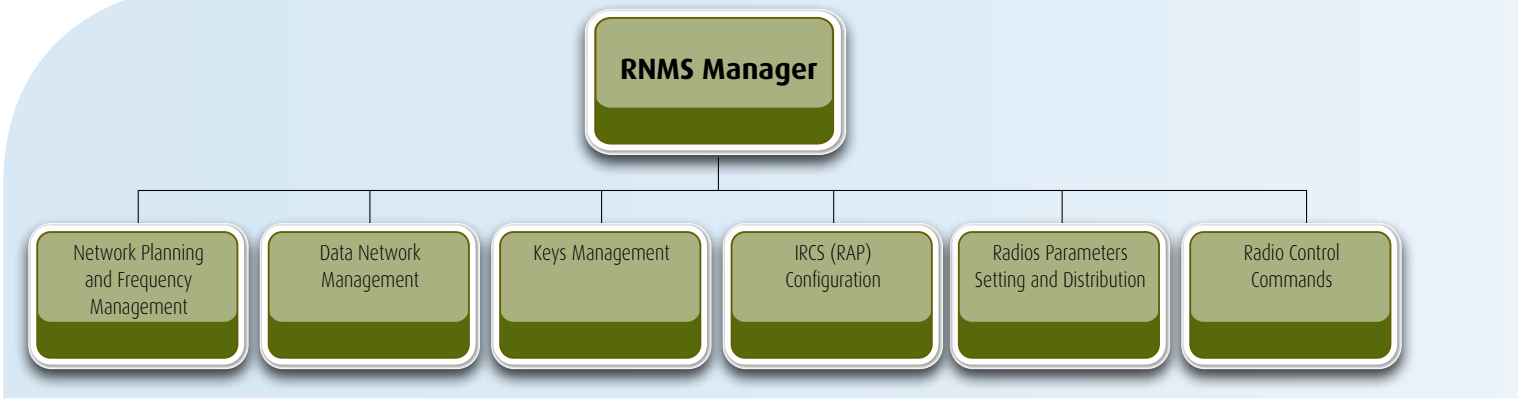
IRCS (RAP) Tactical Hub Configuration

This component allows for the planning of the required functional parameters relevant to the operation of an IRCS (RAP) station (a station used as access point for voice infrastructure services such as telephony or VoIP – also referred as (RAP) Radio Access Point).

The IRCS (RAP) stations, as identified in the scenario, may then be configured with their associated radios' parameters and station-specific parameters.

Radio Control Commands (RCC)

The RNMS allows for over-the-air (OTA) control of the deployed radios with support of some specific OTA commands. A local radio is required for connection with other radios.



Radio Network Management System (RNMS)

Plan. Deploy. Communicate.

Key Features

- Radio network planning
- Data network management
- Frequency allocation
- Encryption keys management
- Parameters loading application
- IRCS (RAP) tactical hub configuration
- OTA radio controls
- Full integration with system solutions

Practical Uses for Signal Officers – Radio Network Planners

- Deployment scenario planning (forces deployment definition on a geographic area)
- Analyzes HF/VHF/UHF/LOS networks, with frequencies of up to 2.75 GHz
- Determines best location for deployment of the radio equipment (HQ, relays, units)
- Allocates fixed frequency and frequency-hopping for different networks
- Configures radios for data networking
- Creates and manages encryption keys for each secure network
- Configures IRCS (RAP) tactical hubs
- Distributes the network parameters to the individual radio units
- OTA control of basic radio commands

Elbit Systems Land and C4I

Elbit Systems Land and C4I Ltd.
2 Ha'machshev St. Netanya 42507, Israel
E-mail: landc4i@elbitsystems.com www.elbitsystems.com/landc4i

© 2011 Elbit Systems Ltd. EP11-MKT-024 This brochure contains Elbit Systems and others proprietary information